



Name: Dr. Biltayib Misbah Biltayib Amir

Rank: Assistant Professor - Petroleum Engineering

Personal Information

Nationality: Libyan

AU Joining Date: 20 Dec 2014

E-Mail Address: b.biltayib@au.edu.kw

Professional Information

Education:	- 1991-1995 Bachelor of Science (BSc) in petroleum engineering, Bright Star University of Petroleum technology - 1998 -2001 Master of Science (MSc) in petroleum engineering (Miskolc university (Hungary) - 2002-2006 Philosophy doctorates (PhD) in petroleum engineering, TU Bergakademie Freiberg, Germany.
Specialization:	- Industry acknowledged specially in, drilling Engineering in terms of well design and Construction, operation and related problems usually occur while drilling a well such as Loss circulation, pipe sticking. - Specialize in environmental issues of petroleum exploration and - Production and author of the written book about Reducing Environmental Risk in Oil and Gas.
Current Academic Position:	Assistant Professor - Petroleum Engineering
Current Professional Positions:	- Researcher - Reviewer
Previous Administrative Position Held:	- Drilling superintendent at National oil Corporation - Acting Manager of Libyan oil Production at National oil Corporation - Member of committee of Amerada Hess Libya Exploration Limited
Previous Academic Positions Held:	- Lecturer - Petroleum Engineering

Fellowships And Honors:	- Best graduation project petroleum engineering 2016, 2018, and 2023. - Best management award drilling operation: Libyan NOC-2009 - Nominated for Libya representative at OPEC-2008. - Awarded scholarship for MSc (Funded by Libyan National Oil Corporation), - Awarded scholarship for PhD (Funded by ministry of education in Libya).
Teaching Experience:	I have worked as part-time instructor for more than 8 years. - Place1: Tripoli University -from 2008 to 2011 - Place2: Mechanical High Institute -Nasser Aldeen – Petroleum Department from 2008 to December 2014 - Place 3: AU: I have been working as Full-time instructor at AU since December 2014.
Industrial And Technical Experience:	1. Agip Gas, Company (Libyan Branch) from July 2001 to 2002.implement procedures to drill wells as safely and economically as possible. They work closely with the drilling contractor, service contractors, and compliance personnel, as well as with geologists and other technical specialists. 2. Drilling Engineer Consultant with Almotafougon Oilfield Services Company (AOSCO-LIBYA) from January 2008 until December 2010. 3. Drilling Engineer Consultant (2010) with Joint Oil Company. in Tunisia for one month during drilling offshore well in Zerat 4. Libya National Oil Corporation from 2007 to December 2014. Reports to the Drilling Manager and represent the company in all drilling related activities required to drill, evaluate and complete a well. Also, Perform periodic evaluations for the Drilling Supervisors, Drilling Engineers and Drilling Technicians. 5. Management Committee Member for HESS Libya Offshore Area 54 Exploration Company: Hess Libya Exploration Limited is working in offshore Area 54 from 2008 to December 2014.
Research Interest:	- Well design and construction - Wellbore instability - Drilling Technology - Mud rheology and rheological models - Environmental issues of petroleum Drilling and production - Produced water treatment
Research Grants:	- KFAS Grant (1 project, 4610 KD, 12 months) – Co PI - AU internal Grant (1 project,1500 KD, 12 months)- Co PI - AU internal Grant (1 project,900 KD, 12 months)- PI
Research and Publications including Journal and Books:	1. Biltayib Misbaha, Rida Elgaddafia, Rana N. Malhasa, Suad Al Radhwana, Asama Hussainb, Ali Hersia.,(2024),Exploring the rheology characteristics of Flowzan and Xanthan polymers in drilling water based fluids at high-temperature and high-shear rates, Geoenergy Science and Engineering (Formerly known as Journal of Petroleum Science and Engineering). Elsevier. 2. Biltayib, B., Sedaghat, A., Balhasan, S., Elgaddafi, R., Malayer, M. A., Malhas, R. N., Omar, M., Benomran., M.(2023), Enhancing thermal stability and filtration control for water-based drilling fluid using viscosifier polymers and potassium chloride additives. Geoenergy Science and Engineering

- (Formerly known as Journal of Petroleum Science and Engineering). Elsevier.
3. Malhas, R., El Achkar, J., Biltayib, M., & Al Radhwan, S. (2023), Optimizing Oil Removal from Oil-Water Emulsions Using Novel Iron Oxide Magnetic Nanoparticles. Water, Air, & Soil Pollution Journal. Springer.
 4. Biltayib Misbah, Saad Balhasan, Adel Younis¹, Koshy Vaidyan, Mohammed Otman (2022), Optimization of Mud Properties and Flow Rates for Cutting Transportation in Directional Wells. Petroleum and Coal journal. VURUP (Research Institute of Petroleum and Hydrocarbon
 5. Biltayib Misbah a, Ahmad Sedaghat, Masoud Rashidi, Mohammad Sabati, Koshy Vaidyan, Naser Ali, Mohamed Abdulsalam Ali Omar, Seyyed Shahabaddin Hosseini Dehshiri (2022), Friction reduction of Al₂O₃, SiO₂, and TiO₂ nanoparticles added to non-Newtonian water based mud in a rotating medium. Journal of Petroleum Science and Engineering. journal homepage: www.elsevier.com/locate/petrol.
 6. Biltayib Misbah Biltayib, Maryam Bonyani, Afrasyab Khan, Chia-Hung Su, Yi-Yang Yu, (2021) Predictive modeling and simulation of wastewater treatment process using nano-based materials: Effect of pH and adsorbent dosage. Journal of Molecular Liquids. www.elsevier.com/locate/molliq.
 7. Masoud Rashidi, Ahmad Sedaghat, Biltayib Misbah, Mohammad Sabati, Koshy Vaidyan, Ali Mostafaeipour, Seyyed Shahabaddin Hosseini Dehshiri, Khalid Almutairi, and Alibek Issakhov, (2021), Introducing a Rheology Model for Non-Newtonian Drilling Fluids. Hindawi. Geofluids Volume.
 8. Masoud Rashidi · Ahmad Sedaghat · Biltayib Misbah · Mohammad Sabati · Koshy Vaidyan · Ali Mostafaeipour · Seyyed Shahabaddin Hosseini Dehshiri · Khalid, Almutairi · Alibek Issakhov, Seyed Amir Abbas Oloomi · Mahdi Ashtian Malayer. (2021), Simulation of Wellbore Drilling Energy Saving of Nanofluids Using an Experimental Taylor–Couette Flow System. Journal of Petroleum Exploration and Production Technology <https://doi.org/10.1007/s13202-021-01227-w>.
 9. Masoud Rashidi, Ahmad Sedaghat, Biltayib Misbah, Mohammad Sabati, and Koshy Vaidyan, Australian College of Kuwait, (2020) Use of SiO₂ Nanoparticles in Water-Based Drilling Fluids for Improved Energy Consumption and Rheology A Laboratory Study: Society of Petroleum Engineers journal SPE.
 10. Masoud Rashidi, Ahmad Sedaghat, Biltayib Misbah, Mohammad Sabati, Koshy Vaidy (2020)., Experimental study on energy saving and friction reduction of Al₂O₃-WBM nanofluids in a high-speed Taylor-Couette flow system, Tribology International, Publisher Elsevier. Tribology International 154 (2020) 106728.
 11. Saad A. B, Brian F. Towler., Khaled O. AlHadramy, Biltayib Misbah, (2019). Comparative risk evaluation and sensitivity analysis of the Libyan EPSA IV and its modified model LEPSA, Science Direct, Publisher Elsevier.
 12. Rashidi M., Biltayib B.M., Asadi A. (2019) Experimental Analysis and Cement Slurries Properties Evaluation Using Novel Additives. In: Banerjee S., Barati R., Patil S. (eds) Advances in Petroleum Engineering and Petroleum Geochemistry. Advances in Science, Technology & Innovation (IEREK Interdisciplinary Series for Sustainable Development). Springer, Cham

	13. Saad Balhasan, Biltayib Misbah, Mohamed Omar, Ibrahim Misbah and Belkasim Khameiss.,(2018). Impact of Proposal Changes to Libyan Oil Taxation System on Developing the 137 B Offshore Field. Journal of Engineering and Applied Sciences., Medwell journal. volume:13 14. Biltayib Misbah Biltayib1, Masoud Rashidi1, Saad Balhasan2, Reem Alothman1, Mufazzal S. Kabuli1(2018) Experimental analysis on rheological and fluid loss control of water-based mud using new additive, Journal of Petroleum and Gas Engineering (JPGE). ISSN: 2141-2677. 15. Biltayib. M, Mufazzal. S. Kabuli., Dania Issa, Norah Ayyadand, Daliris Ramires Australian College of Kuwait (ACK); (2016)., Management of Drilling Cuttings in Term of Volume and Economics in Oil Field, Journal of Engineering Research and Application. ISSN: 2248-9622, Vol. 6, Issue 10, (Part -1) October 2016, pp.45-47. 16. Khulud M. Rahuma., Biltayib Misbah., Sharoh Marquez., Effect of Petrophysical Parameters on Water Saturation in Carbonate Formation, Journal of Engineering Research and Applications, ISSN: 2248-9622, Vol. 6, Issue 3, (Part - 6) March 2016, pp.57 17. Saad A.Balhasan., Biltayib. M. Biltayib., Mohamed. A.Omar .,(Australian College of Kuwait (2015) Effects of Directional Permeability Anisotropy on Sweep Efficiency for Five-Spot and Nine-Spot Pattern Flood . J Pet Environ Biotechnol 2015,Petroleum & Environmental. ISSN: 2157-7463 JPEB, an open access journal. Volume 6 • Issue 5 • 1000238.ISSN: 2157-7463 JPEB, an open access journal. 18. Biltayib. M. Biltayib, National Oil Corporation (NOC) (2015), Reducing Environmental Risk in Oil and Gas Operations, LAP LAMBERT Academic Publishing (Book), ISBN-13: 978-3-659-74270-5., ISBN-10: 3659742708., EAN: 9783659742705. 19. Biltayib. M. Biltayib, Saad A.Balhasan., Mohamed. A.Omar.,(Australian College of Kuwait (2015), Example of Improve drilling operational efficiency and reducing well costs in the Sirte basin Libya., IRACST – Engineering Science and Technology: An International Journal (ESTIJ), ISSN: 2250-3498.Vol.5, No.1, February 2015. 20 . Biltayib. M. Biltayib, Saad A.Balhasan., Mohamed. A. Omar., (Australian College of Kuwait (2015)., Ultra mud system Optimizes Drilling Efficiency in Sirte basin. Asian Journal of Engineering and Technology. ISSN: 2321 – 2462 21. Biltayib and M K Kherialla – 2005, Guiding AGOCO for Identification Drilling and Production Aspects according to ISO 14001 Journal of Environmental Sciences, Vol 30 – The University of Mansoura, Egypt. 22. Biltayib. Misbah, Australian College of Kuwait (ACK). Khulud.Rahuma, Al-Fateh University, (2015); Effect of Salinity on Polymers Performance: Scientific Journal for, Damietta Faculty of Science. ISSN 2314-8616 Volume5.www.du.edu.eg/faculty/sci
Paper Presentations at Professional Conferences:	1. Biltayib, Biltayib Misbah, Elgaddafi, Rida, Amadi, Kingsley, Malhas, Rana N., Damrah, Sadeq, and Saad A. Balhasan.(2025) "Novel Viscometer Design for Investigation of the Rheological Properties of Drilling Fluid at Low and High Shear Rate Conditions." Paper presented at the SPE Nigeria Annual International Conference and Exhibition, Lagos, Nigeria, August. doi: https://doi.org/10.2118/228615-MS

2. Elgaddafi, R. M., Amadi, K., Biltayib, B. M., Al Saba, M. T., Omar, M., Dashti, A., Alali, M., and M. Alabdullah.(2025) "Towards Autonomous Rotary Drilling System: A Robust Rate of Penetration Model for Drilling Operation Using Artificial Intelligence." Paper presented at the SPE Conference at Oman Petroleum & Energy Show, Muscat, Oman, May 2025. doi: <https://doi.org/10.2118/224993-MS>
3. RM Elgaddafi, MT Al Saba, R Ahmed, M Omar, B Biltayib, A Almarshad, (2024) Application of Machine Learning Method for Modeling Settling Behavior of a Spherical Particle in Fibrous Drilling Fluids. SPE EOR Conference at Oil and Gas West Asia, D021S027R002.
4. JU K.W.Amadi*, M.T, Alsaba, I. Iyalla, M. H. Farhat, B.M. Bitayib, (2024)Enhancing PDC Bit Performance Analysis through Reverse Engineering and Finite Element Methods in forensic study, 2024 Nigeria Annual International Conference and Exhibition (SPE-123456).
5. Biltayib Misbah, Rana N. Malhas Rida Elgaddafi,(2023), Reducing Environmental Impact of Drilling Operations through the Implementation of Organic Waste Additives for Environmental Protection. Proceedings of the 8 th World Congress on Civil, Structural, and Environmental Engineering (CSEE'23) Lisbon, Portugal – March 29 – 31, 2023 Paper No. ICEPTP 204 DOI: 10.11159/iceptp23.204.
6. R. M. Elgaddafi, R. Ahmed, S. Salehi, M. T. Alsaba and B. M. Biltayib, C. C. Ikeokwu, K. W. Amadi, (2023), Modeling Two-Phase Flow in Vertical and Deviated Wellbores Using Machin eLearning Method, SPE Nigeria Annual International Conference and Exhibition held in Lagos, Nigeria 31 July - 2 August 2023. DOI 10.2118/217116-MS
7. Saad Balhasan, Biltayib. Biltayib, (2019), Risk Evaluation & Sensitivity Analysis of the Exploration & Production Sharing. Agreement, Abu Dhabi International Petroleum Exhibition & Conference held in Abu Dhabi, UAE.
8. Masoud Rashidi, Adel Asadi, and Misbah Biltayib (2018) Correlation Between Uniaxial Compressive and Shear Strength Data of Limestone Rocks by Regression Analysis and ANFIS Model. Advances Geo-Environmental Engineering, Geomechanics and Geotechnics and Geohazards. 1st Springer conference of the Arabian Journal of Geosciences (CAJG-1) Tunisia 2018.
9. Biltayib .M, M. Elhemry, Khulud M. Rahuma.(2010) First Underbalanced Drilling Experience in AGOCO Sarir C- Main Field - LIBYA: Case Study and Hani Qutab, Paco Vieira and Maurizio. Arnone, Weatherford International (SPE/IADC 130562).
10. Biltayib. Misbah, Sadeq Damrah, Bushrah Al-Fakeh, Ashwaq Al-Kanderi. Australian College of Kuwait (ACK); (2015)., Validation of Directional Drilling Well Design Trajectory with a Case Study in Kuwait. International Conference on Sustainable Mobility Applications, Renewables and Technology (SMART).
11. Khulud.M. Rahuma, Al-Fateh University(Libya).,M.Elhemry, Al-Fateh University(Libya)., Biltayib .Misbah, , National Oil Corporation (Libya): underbalanced Drilling: remedy for formation Damage ,Lost Circulation

	and other related conventional drilling problems in sarrir field UNDER-balanced.; Jordan international Energy Conference –Amman 2011. 12. Biltayib M. Biltayib, (NOC) Khulud M. Rahman, University of Tripoli, 2014 Impact of Various techniques performance on well cost of difference on well cost of different reservoir type. 2014 MPC bi-annual Technical Conference and Exhibition held in Istanbul-Turkey 14-16 October 2014. 13. Jan Bongaerts and Biltayib, Misbah – 2005, Managing Oil Waste Using International Standardization ISO 14001, Poster at TU Bergakademie Freiberg, Germany. Biltayib, M and Zhang Yanking .2007 Improving Environmental Management Systems for Libyan Oil Companies – China.
College Service including committee Membership:	- Mediterranean council for oil and gas (MEDCOG) - Libyan oil and gas association (LOGA) - Advisor of SPE Chapter at AU from 2015 - 2017. - Member of committee for development plan of Waha field in 2013 - Committee chairman for Drilling Rigs Evaluation at Libyan NOC from 2010 to 2014.
National Service:	-
College Committees:	- Departmental Council - Advisor of SPE Chapter at AU from 2015 - 2017. - Departmental Lab committee - Departmental PBL committee - Curriculum committee